

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 1 063 493 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
04.12.2002 Bulletin 2002/49

(51) Int Cl.7: **G01C 21/36, G01C 21/30,
G01C 21/26, G01C 21/34,
G08G 1/0969**

(43) Date of publication A2:
27.12.2000 Bulletin 2000/52

(21) Application number: **00111101.2**

(22) Date of filing: **23.05.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **24.05.1999 JP 14365699**

(71) Applicants:
• **aisin AW CO., LTD.**
Anjo-shi, Aichi-ken 444-1192 (JP)
• **TOYOTA JIDOSHA KABUSHIKI KAISHA**
Aichi-ken 471-8571 (JP)
• **Denso Corporation**
Kariya-shi, Aichi-ken, 448-8661 (JP)
• **FUJITSU TEN LIMITED**
Kobe-shi, Hyogo, 652-0885 (JP)
• **MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.**
Kadoma-shi, Osaka 571-8501 (JP)

(72) Inventors:
• **Kainuma, Mamoru, c/o Aisin AW Co., Ltd.**
Anjo-shi, Aichi-ken 444-1192 (JP)

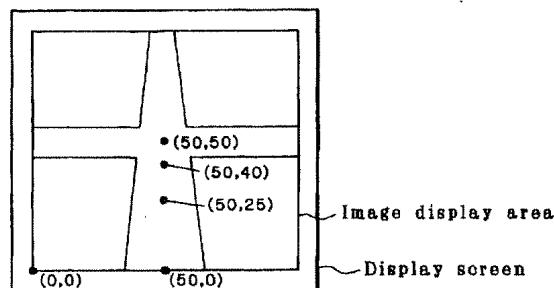
• **Tooyama, Yasuhiro, c/o Aisin AW Co., Ltd.**
Anjo-shi, Aichi-ken 444-1192 (JP)
• **Suzuki, Hidenobu, c/o Toyota Jidosha K.K.**
Toyota-shi, Aichi 471-8571 (JP)
• **Sugimoto, Hironobu, c/o Toyota Jidosha K.K.**
Toyota-shi, Aichi 471-8571 (JP)
• **Fujimoto, Hidetoshi, c/o Denso Corporation**
Kariya-shi, Aichi 448-8661 (JP)
• **Kimura, Masahiro, c/o Denso Corporation**
Kariya-shi, Aichi 448-8661 (JP)
• **Takeuchi, Hiroshi, c/o Fujitsu Ten Limited**
Kobe-shi, Hyogo 652-0885 (JP)
• **Ichimura, Atsushi, c/o Fujitsu Ten Limited**
Kobe-shi, Hyogo 652-0885 (JP)
• **Ogawa, Isao, Matsushita Electric Ind. Co., Ltd.**
Yokohama-shi, Kanagawa 223-0052 (JP)

(74) Representative:
Leson, Thomas Johannes Alois, Dipl.-Ing.
Patentanwälte
Tiedtke-Bühling-Kinne & Partner,
Bavariaring 4
80336 München (DE)

(54) Navigation system and storage medium

(57) Branch-point image data has coordinates added thereto according to the distance from a branch point such as an intersection. When the vehicle is within a predetermined distance from a branch point on a suggested route, the coordinates of the present position of the vehicle and the coordinates added to the branch-point image data are compared to locate the present position on the image data, and a present-position mark (A,B) is displayed superimposed on the branch-point image data. The displayed present-position mark moves according to the distance between the vehicle and the branch point.

FIG. 4





European Patent
Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention EP 00 11 1101
shall be considered, for the purposes of subsequent
proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 836 167 A (AISIN AW CO) 15 April 1998 (1998-04-15) * page 5, line 51 - page 10, line 58 * * page 33, line 4 - line 35; figures 1,46 * ---	1-5	G01C21/36 G01C21/30 G01C21/26 G01C21/34 G08G1/0969
X	EP 0 777 206 A (AISIN AW CO) 4 June 1997 (1997-06-04) * column 8, line 9 - column 12, line 29 * * column 23, line 46 - column 31, line 57; figures 1,47,49,54 * ---	1-5	
X	EP 0 767 448 A (AISIN AW CO) 9 April 1997 (1997-04-09) * column 3, line 41 - column 4, line 31 * * column 6, line 7 - column 9, line 11 * * column 14, line 29 - column 16, line 47; figures 1,11A,11B * ---	1-5	
A	US 5 638 279 A (KISHI HIROSHI ET AL) 10 June 1997 (1997-06-10) * column 4, line 20 - column 6, line 59; figures 2-4 * --- -/--	1-5	<div>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</div> <div>G01C G08G</div>
INCOMPLETE SEARCH The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims. Claims searched completely : Claims searched incompletely : Claims not searched : Reason for the limitation of the search: see sheet C			
Place of search		Date of completion of the search	Examiner
MUNICH		18 September 2002	Springer, O
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



European Patent
Office

**INCOMPLETE SEARCH
SHEET C**

Application Number
EP 00 11 1101

Claim(s) searched completely:
1 to 5

Claim(s) not searched:
6,7

Reason for the limitation of the search:

The wording of claims 6 and 7 is such that lack of clarity within the meaning of Article 84 EPC arises to such an extent as to render a meaningful search of the claims impossible.

In claim 6 it is not clear what is meant by "coordinates added thereto according to a distance from a branch point such as an intersection". In claim 7 one cannot derive what is meant by "said image data includes data concerning a size thereof when it is expanded".

Consequently, the search has been carried out for those parts of the application which do appear to be clear, namely claims 1 to 5.

Further, because of the unclarity of claim 6 the present subject-matter of claim 6 seems not to be patentable according to Article 52(2d) EPC as the subject-matter of claim 6 is a representation of information defined solely by the content of the information, i.e. the branch-point image data (see the Guidelines C-IV, 2.3).

European Patent
Office

PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 00 11 1101

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	EP 0 702 209 A (AISIN AW CO) 20 March 1996 (1996-03-20) * page 3, line 21 - page 7, line 2; figures 1,2,12,14 * -----	1-5	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 11 1101

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

18-09-2002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0836167 A	15-04-1998	JP 10103994 A	24-04-1998
		EP 0836167 A1	15-04-1998
		JP 10116026 A	06-05-1998
		US 6067502 A	23-05-2000
		JP 10133570 A	22-05-1998
		JP 10160505 A	19-06-1998
		JP 10170298 A	26-06-1998
EP 0777206 A	04-06-1997	JP 9152352 A	10-06-1997
		JP 9152351 A	10-06-1997
		JP 9152354 A	10-06-1997
		EP 0777206 A1	04-06-1997
EP 0767448 A	09-04-1997	JP 3309670 B2	29-07-2002
		JP 9101163 A	15-04-1997
		JP 3307192 B2	24-07-2002
		JP 9101167 A	15-04-1997
		EP 0767448 A1	09-04-1997
		US 6266613 B1	24-07-2001
US 5638279 A	10-06-1997	JP 3145198 B2	12-03-2001
		JP 6066573 A	08-03-1994
		JP 6066583 A	08-03-1994
		JP 3129846 B2	31-01-2001
		JP 6066589 A	08-03-1994
		DE 4327780 A1	03-03-1994
EP 0702209 A	20-03-1996	JP 2840036 B2	24-12-1998
		JP 8086659 A	02-04-1996
		JP 3171029 B2	28-05-2001
		JP 8105754 A	23-04-1996
		DE 69527121 D1	25-07-2002
		EP 0702209 A1	20-03-1996
		US 5757289 A	26-05-1998